

SEPTEMBER 2000
FACT SHEET
Bureau of Indian Affairs - Nenahnezad
NPDES Permit No. NM0020800

I. Introduction

The U.S. Department of the Interior was issued an NPDES Permit (No. NM0030800) on March 7, 1986 for the Nenahnezad school wastewater treatment facility. The permit became effective on March 8, 1986 and expired at midnight, March 7, 1991. BIA applied to U.S. Environmental Protection Agency (EPA) Region 6 for reissuance on October 16, 1990. Pursuant to 40 CFR 122.6, the 1985 permit has been administratively continued pending reissuance by the EPA. The facility is not considered a publicly-owned treatment works (POTW) because it is a federal facility.

Applicant address: U.S. Department of Interior
Bureau of Indian Affairs
Nenahnezad Boarding School
P.O. Box 966
Shiprock, NM 87420

Facility contact: Albert A. Lujan
(505) 368-4427

II. Background

The BIA Nenahnezad wastewater treatment facility is located in Fruitland, San Juan County, New Mexico, within the northern portion of the Navajo Nation. The facility serves a population of approximately 525, receiving only domestic sewage with a design flow of 0.024 million gallons per day (MGD). The facility consists of an extended aeration package plant that treats wastewater and discharges into an unnamed creek. This creek is reportedly perennial (sourced by overflow from an irrigation canal and possibly a natural seep). Biosolids collected from the package plant are sent to lagoons located across the unnamed creek. These lagoons also receive bypass from the package plant. Effluent is continuously discharged through a 6-inch pipe (Outfall number 001) approximately 50 feet from the package plant. From the end of the pipe, the effluent flows 20 feet down into the unnamed creek where it flows another 500 yards before reaching the San Juan River. Samples shall be collected at the end of the 6-inch pipe (Outfall number 001).

From June to December 1995, the following work was performed at the plant: install new 7,500-gallon aerated equalization tank; replace hypochlorination pump and accessories; apply catalyzed coating to interior surfaces of all tanks; apply acrylic enamel to

all exterior surfaces; replace filter media from tertiary filter; and, install new anodes for tanks. During repairs, wastewater bypassed the package plant into the lagoons with no discharge reported.

EPA has determined that there are no endangered species of concern in the discharge area so no requirements specific to the protection of endangered species are in the proposed permit.

III. Navajo Nation Water Quality Standards

Pursuant to the Water Quality Act of 1987 and the "EPA Policy for the Administration of Environmental Programs on Indian Reservations" (November 8, 1987), EPA will work directly with Indian Tribal governments on a one to one basis. This conforms with the Federal Indian Policy of January 24, 1983. The Navajo Nation has received Treatment as a State (TAS) for Section 106 of the Clean Water Act (CWA) but has not applied for TAS under Section 303. Section 106 grant money is used to develop water quality standards and use designations, which must be approved under Section 303 by EPA Region 9.

On September 7, 1999, the Navajo Nation completed and adopted water quality standards for the nation's waters. These water quality standards along with a TAS application under Section 303 was submitted to EPA in November 1999. In the interim until the Navajo Nation's water quality standards are approved by EPA, those water quality standards will be used on a best professional judgment basis for purposes of developing water quality based effluent limitations.

IV. Basis of Proposed Permit Requirements

The proposed discharge limitations are based upon:

A. Secondary Treatment Regulations contained in 40 CFR Part 133, Sections 133.101 through 133.105, promulgated September 20, 1984, and most recently amended on January 27, 1989.

B. Navajo Nation Water Quality Standards, September 7, 1999.

V. Designated Uses of the Receiving Water

The designated uses of the receiving water (unnamed ephemeral creek, a tributary to San Juan River) as defined by the Navajo Nation's water quality standards are secondary human contact, ephemeral warm water habitat, and livestock and wildlife watering (p. 20).

VI. Determination of Effluent Limitations and Monitoring Requirements

A. Flow

Under the proposed permit, there is no flow limit but the monthly and daily maximum flows must be monitored and reported. The monitoring frequency is once/month.

B. Five-Day Biochemical Oxygen Demand (BOD₅)

Under the proposed permit, the discharge shall not exceed a weekly average of 65 mg/l and monthly average of 45 mg/l BOD₅, and shall achieve no less than a monthly average rate of 65% removal. These limits are required under 40 CFR Section 133.105 (Treatment equivalent to secondary treatment).

Under 40 CFR Section 122.45(f), mass limits are required for BOD₅. Based upon the 0.024 MGD flow, the mass limits for BOD₅ are based on the following calculations:

30-day average

$$\begin{array}{ccccccc} \text{kg/day} & \frac{0.024 \text{ MG}}{\text{day}} & \times & \frac{45 \text{ mg}}{1} & \times & \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} & \times \frac{0.45 \text{ kg}}{\text{lb}} = 4.06 \end{array}$$

7-day average

$$\begin{array}{ccccccc} \text{kg/day} & \frac{0.024 \text{ MG}}{\text{day}} & \times & \frac{65 \text{ mg}}{1} & \times & \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} & \times \frac{0.45 \text{ kg}}{\text{lb}} = 5.86 \end{array}$$

The daily maximum will also be monitored and

reported. The monitoring frequency is once/month.

C. Total Suspended Solids (TSS)

In the proposed permit, the discharge shall not exceed a weekly average of 135 mg/l and a monthly average of 90 mg/l TSS, and shall achieve no less than a monthly average rate of 65% removal. These limitations (Alternative State Requirements) are consistent with 40 CFR 133.101(f) and 133.105(d). Mass limit requirements in accordance with 40 CFR 122.45(f) have also been set in the proposed permit. Mass loading shall not exceed a 7-day average of 12.17 kg/day and a 30-day average of 8.11 kg/day. The daily maximum will also be monitored and reported. The monitoring frequency is once/month.

D. Fecal Coliform

In the proposed permit, the monthly logarithmic mean of fecal bacteria shall not exceed 200/100 ml, as a geometric average of samples collected during the calendar month, and 400/100 ml as a single sample maximum. These limits are based on the Navajo Nation Water Quality Standards for secondary human contact (p. 24). The monitoring frequency is once/month.

E. Total Residual Chlorine (TRC)

The permit requires chlorination of the effluent before discharge. For the continuous discharge, no single sample shall exceed 11.0 ug/l for TRC. This limit is based on the Navajo Nation Water Quality Standards for ephemeral warm water habitat uses (p. 28). The monitoring frequency is once/month.

F. Ammonia (as un-ionized NH₃)

The proposed permit establishes a monitoring requirement for ammonia. The monitoring frequency is once/quarter. If analytical results for the first four quarters reveal ammonia levels are below the Navajo Nation's water quality criteria for ammonia, the monitoring frequency will decrease to once/year. The regulations at 40 CFR 122.44(I) allow requirements for

monitoring as determined to be necessary.

G. pH

The proposed permit requires that effluent pH not fall below 6.5 or above 9.0 standard pH units, consistent with the Navajo Nation water quality standards. The monitoring frequency is once/week.

I. Reporting

The proposed permit requires discharge data obtained during the previous three months to be summarized and reported monthly. If there is no discharge for the month, indicate "Zero Discharge". These reports are due January 28, April 28, July 28, and October 28 of each year. Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator and the Navajo Nation.

J. General Standards

The proposed permit sets general standards that are narrative water quality standards contained in the Navajo Nation Water Quality Standards, Section 203. These general standards are set forth in Section B. General Discharge Specifications of the permit.

VII. Permit Reopener

At this time, there is no reasonable potential to establish any other water quality-based limits. Should any monitoring indicate that the discharge causes, has the reasonable potential to cause, or contributes to excursions above water quality criteria, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. This permit may be modified, in accordance with the requirements set forth at 40 CFR 122.44 and 124.14, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new Tribal water quality standards.

VIII. Biosolids Requirements

The permittee shall submit a report 60 days prior to disposal of biosolids. The report shall discuss the quantity of biosolids produced, the treatment applied to biosolids including process parameters, disposal methods, and, if land applied, analyses for Arsenic, Cadmium, Chromium, Copper, Lead, Molybdenum, Nickel, Zinc, and Selenium expressed in mg/kg dry biosolids. The permittee shall

comply with all standards for sewer biosolids use and disposal of Section 405(d) of the CWA, and 40 CFR Parts 257, 258 and 503.

IX. Endangered Species Act

EPA has determined that discharge in compliance with this permit will have no effect on threatened or endangered species.

X. Written Comments

Persons who wish to comment upon, object to the proposed action, or request a public hearing pursuant to 40 CFR Section 124.11 should submit their comments and requests in writing within thirty (30) days from the date of the Public Notice, either in person or by mail to:

U.S. Environmental Protection Agency, Region IX
CWA Standards and Permits Office (WTR-5)
Attn: Linh Tran
75 Hawthorne Street
San Francisco, CA 94105
Telephone: (415) 744-1901

XI. Information and Copying

The Administrative Record, which contains the draft NPDES permit, the fact sheet, comments received, and other relevant documents, is available for review and may be obtained by calling or writing to the above address.

All comments or objections received within thirty (30) days from the date of the Public Notice, will be retained and considered in the formulation of the final determination regarding the permit issuance.

XII. Public Hearing

When public interest warrants, the Regional Administrator shall hold a public hearing and such notice of hearing shall be issued by public notice at least thirty (30) days prior to the hearing date. A request for a public hearing must be in writing and must also state the nature of the issue proposed to be raised in the hearing.